

REMARKS/ARGUMENTS

The Examiner is thanked for the Office Action mailed April 3, 2007. The status of the application is as follows:

- Claim 18 stands objected to for an informality.
- Claims 13-21 stand rejected under 35 U.S.C. 101.
- Claims 1, 2 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum (US 6,198,790 B1) in view of Sata (US 5,412,702).
- Claims 10, 11 and 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum in view of Sata and in further view of Ozaki (US 6,763,082 B2).
- Claims 3-9 and 14-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum in view of Sata and Ozaki and in further view of Tachizaki et al. (US 6,901,129 B2).
- Claim 12 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum in view of Sata and in further view of Brunnett (US 7,023,952 B2).

The objections and rejections are discussed below.

Newly added Claim

Claim 22, which depends from claim 1, has been added to further emphasize various aspects. In particular, claim 22 recites that the pilot scan is a pre-scan performed prior to performing the tomographic procedure, and that scan parameters for the tomographic procedure are determined based in part on an image generated from the pilot scan. No new matter has been added. The art of record, individually and in combination, does not teach or suggest these claimed aspects and, thus, entry and allowance of claim 22 is kindly requested.

Claim 17

The dependency of claim 17 has been amended herein. Claim 17 has not been amended to address an issue of patentability.

The Objection to the Claims

Claim 18 stands objected to for an informality. In particular, the Office has stated that it appears as though claim 18 should depend on claim 15. Claim 18 has been accordingly amended herein to depend from claim 15. In light of this amendment, the objection to claim 18 should be withdrawn.

The Rejection of Claims 13-21 under 35 U.S.C. 101.

Claims 13-21 stand rejected under 35 U.S.C. 101 as being directed towards non-statutory subject matter. Independent claim 13 has been amended herein to overcome this rejection, and claims 14-21 directly or indirectly depend from claim 13. In view of the amendment, the rejection of claims 13-21 should be withdrawn.

The Rejection of Claims 1, 2 and 13 under 35 U.S.C. 103(a)

Claims 1, 2 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum in view of Sata. However, Pflaum in view of Sata does not teach or suggest all the limitations of the subject claims and, therefore, the Office has failed to establish a *prima facie* case of obvious with respect to amended claims 1, 2 and 13.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, (CCPA 1970). The teaching or suggestion to make the claimed combination ...

must ... be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, (Fed. Cir. 1991).
MPEP §2143.03.

Amended **claim 1** is directed towards a imaging system that includes, *inter alia*, ***a means for controlling an x-ray source to pulse the x-ray source at a selected angular location, a means for reconstructing a pilot scan from the radiation detected when the x-ray source was pulsed, a means for controlling the x-ray source to emit radiation for a tomographic scan, wherein the tomographic scan is based on the pilot scan and the radiation is detected by the means for detecting transmitted radiation, and a means for reconstructing volumetric image data based on the radiation detected during the tomographic scan.*** Hence, claim 1 requires using the same source for a pilot scan and a tomographic scan, wherein the tomographic scan is based on the pilot scan. The combination of Pflaum and Sata does not teach or suggest all of these claimed aspects.

In particular, Pflaum is directed towards an imaging apparatus that includes a CT sub-system and an x-ray sub-system. For the CT sub-system, a first x-ray source 1 (hereafter "CT source") emits radiation, and detectors 512 detect that radiation as the source 1 and detectors 512 rotate about a measuring field 6 through 360 degrees. The detectors 512 produce signals indicative of the detected radiation, and a computer 8 produces a tomographic image based on these signals. (See column 2, lines 33-51).

For the x-ray sub-system, a second x-ray source 11 (hereafter "x-ray source") emits pulsed radiation, and a flat x-ray detector 13 detects the radiation as the source 11 and detector 13 rotates about the measuring field 6 through 360 degrees. The flat x-ray detector 13 produce signals indicative of the detected radiation, and a digital image system 17 produces a radiographic image from these signals. (See column 2, line 57 to column 3, line 15). While performing a CT procedure, the x-ray source 11 is selectively pulsed at various rotation angles so that ***CT and x-ray data are simultaneously detected and respectively used to generate a CT image and an x-ray image.*** (See column 1, lines 57-65, and column 3, lines 16-26).

Hence, Pflaum teaches pulsing a rotating x-ray source 11 of an x-ray sub-system, detecting the radiation emitted thereby, and generating a radiographic image from the detected data, while simultaneously performing a CT procedure with a CT sub-system. However, Pflaum does not teach or suggest using the same source for a pilot scan and a tomographic scan, wherein the tomographic scan is based on the pilot scan. Thus, the combination of Pflaum and Sata does not teach or suggest all of these claimed aspects.

Sata does not make up for this deficiency in Pflaum. More particularly, Sata is directed towards a CT system that produces a scanogram from data acquired during a continuous helical scan. As disclosed in Sata, an object under examination is continuously scanned in helical scan mode, and the data is used to generate a tomographic image of the object and a scanogram of the object. In particular, Sata discloses reconstructing all of the projection data to generate the tomographic image and reconstructing projection data acquired at a particular angle to generate the scanogram. Thus, Sata teaches generating a tomographic image and a scanogram from the same helical scan data set obtained using a continuous scan technique.

In view of the above, it is readily apparent that Pflaum in view of Sata does not teach or suggest all the limitations of the subject claims and, thus, a *prima facie* case of obviousness has not been established with respect to amended claim 1. Therefore, this rejection should be withdrawn.

Claim 2 depends from claims 1 and, by virtue of this dependency, is allowable for at least the reasons discussed in connection with claim 1.

Amended independent **claim 13** is directed towards a method for using a pilot scan to plan a tomographic scan. The method includes, *inter alia*, reconstructing a pilot scan of the subject from the radiation detected when the x-ray source was pulsed at the selected angular location as the subject was translated through the examination region to generate an image and *determining scan parameters for a tomographic scan based on the image generated based on the pilot scan*. The combination of Pflaum and Sata does not teach or suggest using an image generated from a

reconstructed pilot scan to determine scan parameters for a tomographic scan as recited in the subject claim. Thus, this rejection should be withdrawn.

The Rejection of Claims 10, 11 and 21 under 35 U.S.C. 103(a)

Claims 10, 11 and 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum in view of Sata and in further view of Ozaki. Claims 10, 11, and 21 depend directly or indirectly from independent claims 1 and 13 and, by virtue of their dependencies, are allowable for at least the reasons discussed above.

The Rejection of Claims 3-9 and 14-20 under 35 U.S.C. 103(a)

Claims 3-9 and 14-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum in view of Sata and Ozaki and in further view of Tachizaki et al. Claims 3-9 and 14-20 depend directly or indirectly from independent claims 1 and 13 and, by virtue of their dependencies, are allowable for at least the reasons discussed above.

The Rejection of Claim 12 under 35 U.S.C. 103(a)

Claim 12 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum in view of Sata and in further view of Brunnett. The Office Action asserts that Brunnett teaches an air bearing for supporting a rotating gantry in the stationery gantry. As such, claim 12 has been amended herein so as to be directed towards a magnetic bearing for supporting a rotating gantry in the stationery gantry. Accordingly, allowance of claim 12 is respectfully requested.

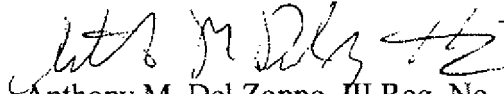
Application No. 10/560,671
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Conclusion

In view of the foregoing, it is submitted that the claims distinguish patentably and non-obviously over the prior art of record. An early indication of allowability is earnestly solicited.

Respectfully submitted,

DRIGGS, HOGG & FRY CO., L.P.A.


Anthony M. Del Zoppo, III Reg. No. 51,606
Driggs, Hogg & Fry Co., L.P.A.
38500 Chardon Road
Willoughby Hills, Ohio 44094
Phone: 1.440.391.5100
Fax: 1.440.391.5101

Direct all correspondence to:

Thomas M. Lundin, Registration No. 48,979
Philips Intellectual Property & Standards
595 Miner Road
Cleveland, Ohio 44143
Phone: 440.483.4281
Fax: 440.483.2452